

蝶と蛾 *Trans. lepid. Soc. Japan* **47** (4): 223-236, December 1996

## Records of the Boarmiini (Geometridae; Ennominae) from Thailand III\*

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**Abstract** 35 species of the Boarmiini are recorded from Thailand, with descriptions of one new genus and four new species: *Telletrurona* gen. nov., *Xandrames xanthos*, *Abaciscus karsholti*, *Parectropis siamensis*, *Telletrurona amnicosta* spp. nov.

**Key words** Geometridae, Ennominae, Boarmiini, new genus and species, Thailand.

This paper is the third report on the Boarmiini from Thailand mainly based on the collections of the Lepidopterological Expeditions of the University of Osaka Prefecture (now Osaka Prefecture University) to Thailand in 1981, 1983, 1985 and 1987, and the Overseas Scientific Research Project of the National Science Museum in 1987. In my preceding papers (Sato, 1991, 1995), 76 species belonging to the tribe Boarmiini, which was defined by Holloway (1993), have already been recorded from Thailand. The detailed accounts of the Lepidopterological Expeditions of the Osaka Prefecture University to Thailand were given by Kuroko & Moriuti (1987) and Moriuti (1989).

In this paper 35 species of the following genera will be newly recorded, with descriptions of one new genus and four new species: *Alcis* Curtis, *Biston* Leach, *Ascotis* Hübner, *Cusiala* Moore, *Xandrames* Moore, *Blepharoctenucha* Warren, *Erebomorpha* Walker, *Ophthalmitis* Fletcher, *Amblychia* Guenée, *Xerodes* Guenée, *Abaciscus* Butler, *Jankowskia* Oberthür, *Parectropis* Sato, *Myrioblephara* Warren, *Calichodes* Warren, *Chrysoblephara* Holloway, *Necyopa* Walker, *Prochasma* Warren, *Ruttellerona* Swinhoe and *Telletrurona* gen. nov.

Abbreviations. Collectors. K: Hiroshi Kuroko. M: Sigeru Moriuti. S: Toshihisa Saito. A: Yutaka Arita. Y: Yutaka Yoshiyasu. The location of the specimens. BMNH: The Natural History Museum, formerly British Museum (Natural History), London. NSMT: National Science Museum, Tokyo. OPU: Entomological Laboratory, Osaka Prefecture University (formerly University of Osaka Prefecture), Sakai, Japan. ZFMK: Zoologisches Forschungsinstitut und Museum Alexander Koenig, Bonn. ZMC: Zoological Museum, Copenhagen, Denmark. RS: R. Sato collection, Niigata.

### *Alcis pammicra* (Prout)

*Cleora pammicra* Prout, 1925, *Novit. zool.* **32**: 57.

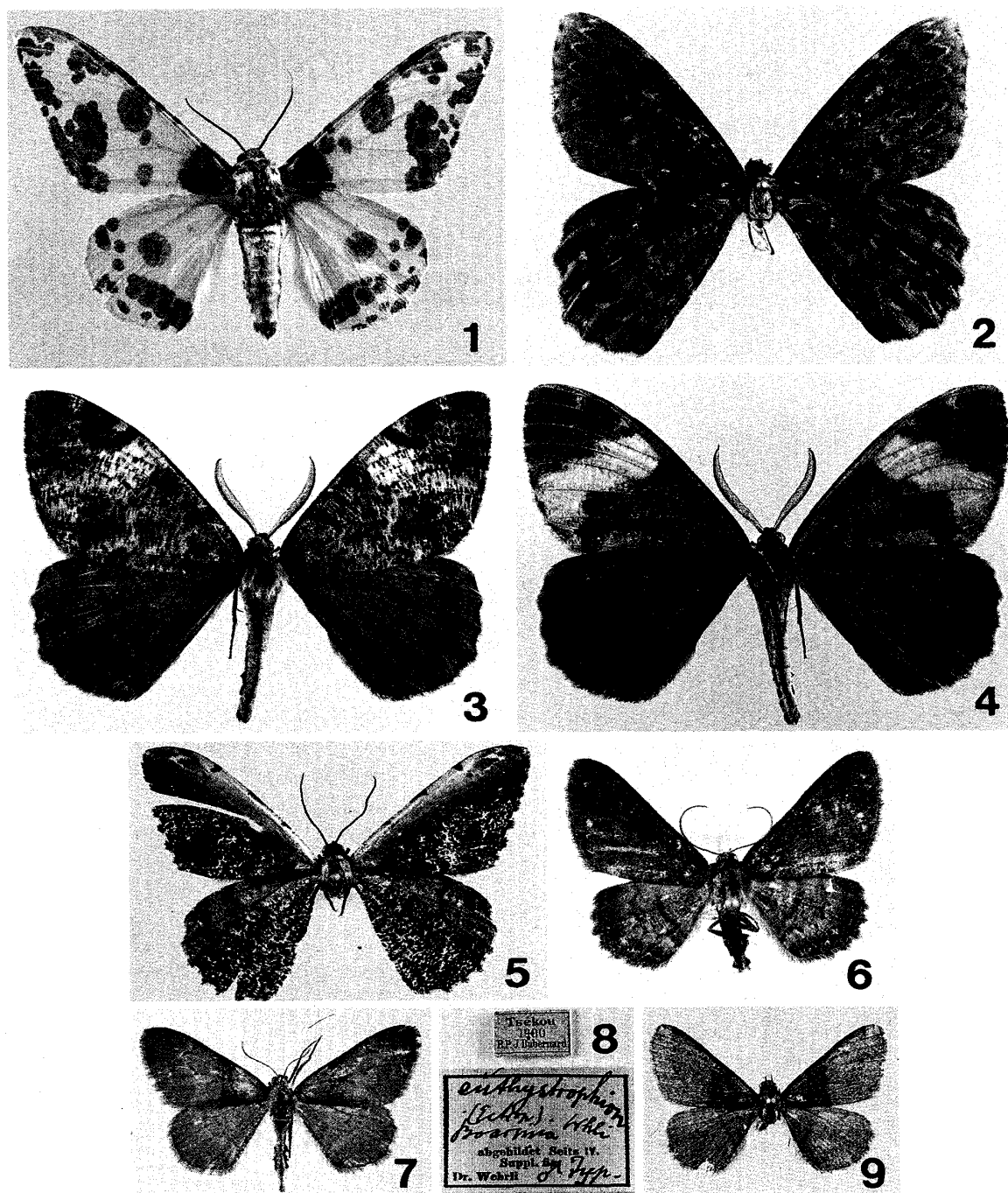
*Alcis pammicra*: Holloway, 1993: 239.

Chiang Mai, Doi Suthep 1,325 m, Meo Village View Point, 1 ♂, 22. xi-4. xii. 1989 (Schnitzler), ZFMK.

### *Biston luculentus* Inoue

*Biston luculentus* Inoue, 1992, *Bull. Otsuma Wom. Univ., Home Econ.* **28**: 171, figs 59, 60.

\* This study was supported by the Grants-in-aid No. 06041116 for Field Research of the Monbusho International Scientific Research Program, and Nos 56041051, 57043046, 58041061, 59043055, 60041062, 61043057, 62041087 and 63043062 for Overseas Scientific Research from the Ministry of Education, Science and Culture, Japan.



Figs 1-9. Boarmiine species from Thailand. 1. *Biston panterinaria exanthemata* (Moore). 2. *Amblychia praeumbrata* (Warren). 3. *Xandrames xanthos* sp. nov. Holotype. 4. *Ditto*, underside. 5. *Telletrurona amnicosta* sp. nov. Paratype. 6. *Abaciscus karsholti* sp. nov. Holotype. 7. *Parectropis euthystrophion* (Wehrli). Lectotype. 8. *Ditto*, labels. 9. *Parectropis siamensis* sp. nov. Holotype.

Chiang Mai, Doi Pui 1,300 m, 1 ♂, 30. v. 1983 (K.M.A.Y.), 1 ♂, 1-4. ix. 1987 (M.S.A.Y.); Fang 450 m, 1 ♂, 14. v. 1983 (K.M.A.Y.). Chanthaburi, Khao Soi Dao 400 m, 6 ♂, 6. vi. 1983 (K.M.A.Y.), 14 ♂ 1 ♀, 24-25. viii. 1987 (M.S.A.Y.); Tam Taru Lod, 2 ♂, 21. viii. 1981 (K.M.A.Y.); Phliu, 1 ♂, 5. vi. 1983 (K.M.A.Y.). Nakhon Nayok, Khao Yai 800 m, 1 ♂, 15. vi. 1983 (K.M.A.Y.), 1 ♂, 22. ix. 1987 (M.S.A.Y.). Chum Phon, Lungsuan, 1 ♂, 3. viii. 1981 (K.M.A.Y.).

***Biston bengaliaria* (Guenée)**

*Amphidasis bengaliaria* Guenée, 1857, in Boisduval & Guenée, *Hist. nat. Insectes* (Lépid.) **9**: 210.

*Biston bengaliaria*: Hampson, 1895, *Fauna Br. India* (Moths) **3**: 247.

Chiang Mai, Doi Pui 1,300 m, 1 ♂, 30. v. 1983 (K.M.A.Y.), 6 ♂, 1-4. ix. 1987 (M.S.A.Y.); Maetaeng, 1 ♂, 7. x. 1988 (native collector). Nakhon Nayok, Khao Yai 800 m, 2 ♂, 15. vi. 1983 (K.M.A.Y.), 37 ♂ 1 ♀, 7-10. viii. 1987 (M.S.A.Y.), 5 ♂, 22-23. ix. 1987 (M.S.A.Y.). Chiang Rai, Wiang Pa Pao, 1 ♂, 4. x. 1988 (native collector); Chen Dao, 1 ♀, 29. iv. 1987 (S. & A. Saito).

***Biston regalis* Moore**

*Biston regalis* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr Atkinson*: 234.

Nakhon Nayok, Khao Yai 800 m, 2 ♂, 23. ix. 1987 (M.S.A.Y.).

***Biston panterinaria exanthemata* (Moore), *comb. nov.* (Fig. 1)**

*Amphidasis panterinaria* Bremer & Grey, [1852], in Motschulsky, *Études ent.* **1**: 67.

*Culcula exanthemata* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr Atkinson*: 266; Prout, 1915, in Seitz, *Gross-Schmett. Erde* **4**: 307, pl. 14, row f.

*Percnia exanthemata*: Hampson, 1895, *Fauna Br. India* (Moths) **3**: 308.

*Culcula panterinaria exanthemata*: Prout, 1930, *Novit. zool.* **35**: 313.

Chaiyaphum, Chulabhorn Dam 700 m, 4 ♂, 14. viii. 1987 (M.S.A.Y.).

*Panterinaria* is the type species of the genus *Culcula* Moore, 1888, and any other species has not previously been placed in the genus. *Culcula* has long been considered to be related to *Percnia* Guenée, 1857, most probably because of the superficial similarities, especially white wings marked with rows of black spots. Hampson (1895) treated *Culcula* as one of the subgroups of *Percnia*, "Section II-A-b", by the absence of fovea in males. Prout (1915) also placed *Culcula* next to *Percnia*, and mentioned the former differs from the latter chiefly in the absence of fovea. My close examination of *panterinaria* including the genitalia of both sexes and mature larvae indicates *Culcula* is not related to *Percnia* but very close to *Biston* Leach, [1815]. The mature larva of *panterinaria* in Japan was illustrated by Sato (1987: 80, pl. 32: 7-8) with a brief description, referred to the similarity to *Biston* in appearance. Inoue (1985) established the concept of *Biston* by examining Palaearctic *Biston* (s. str.) and Oriental *Buzura* Walker, [1863], namely he sank *Buzura* as a junior synonym of *Biston*, and raised *Amraica* Moore, 1888, one of the sections (subgenera) of *Buzura* (Prout, 1915), to the generic level by the remarkable differences in the male antenna and genitalia. Holloway (1993) accepted his broader concept of *Biston*. I also support Inoue's treatment. The following characters of *panterinaria* quite agree with those of *Biston*. Male. Forewing elongate, triangular, outer margin weakly curved; tongue short; no fovea. Male genitalia. Uncus with bifurcate apex; gnathos broadly enlarged and rounded medially; valva simple, without raised group of spines, but with rounded strong cucullus; vesica with elongate band of short setae. Female genitalia. Ovipositor and apodemes elongate, extensible. Mature larva. Body stout; cuticle covered with convex granules; head with a pair of blunt corneous processes on vertex. Slight differences from typical species of *Biston* can be found in the male moth and mature larva of *panterinaria*. Male. Antenna not bipectinate but serrate with fascicles of cilia; a row of long spines present between 8th and 9th abdominal segments dorsally. Male genitalia: juxta not so elon-

gate. Mature larva: subventral filaments between anal and ventral prolegs not developed. But I examined two species of *Biston* which share the above discriminating characters in male. One is *Amphidasys thibetaria* Oberthür, 1886, from Tibet, which has been assigned to *Buzura* since Prout (1915). The other is *Blepharoctenia perclara* Warren, 1899, from Taiwan, which has been treated as a member of *Biston* since Prout (1914). *Thibetaria*, *perclara* and *panterinaria* are closely related to one another. As for the larval characters, *Biston suppressaria* (Guenée), the type species of *Buzura*, was described in detail by Singh (1953). Most characters are identical with those of *Biston* spp. (*robustus*, *regalis* and *betularia* examined), except lack of subventral filaments between anal and ventral prolegs. It indicates that subventral filaments are not so important to define the genus *Biston*.

On the above-mentioned basis, I have reached the conclusion that *panterinaria* should be transferred to *Biston* from *Culcula* (**comb. nov.**) and accordingly *Culcula* is regarded as a junior synonym of *Biston* (**syn. nov.**).

*Exanthemata* from Darjeeling, India, has greyish markings less developed on both wings, showing much paler appearance than in *panterinaria* from Beijing, China. Thai specimens are almost identical with those from India in pale wings with weak markings. There are some geographical variations in the specimens secured from India, Nepal, Sikkim, Vietnam and Thailand. Those variations are found not only in appearance but in the male genitalia, especially the shape of uncus, gnathos and cucullus (Figs 10–14). Besides the nominate subspecies and *exanthemata*, the following subspecies have so far been segregated in China and Japan.

***Biston panterinaria abraxata* (Leech), **comb. nov.** (Kiukiang, China)**

*Buzura abraxata* Leech, 1889, *Trans. ent. Soc. Lond.* **1889**: 143, pl. 9: 14.

***Biston panterinaria szechuanensis* (Wehrli), **comb. nov.** (Tien-Tsuen, China)**

*Culcula panterinaria szechuanensis* Wehrli, 1939, in Seitz, *Gross-Schmett. Erde* **4** (Suppl.): 266, pl. 20, row b.

***Biston panterinaria lienpingensis* (Wehrli), **comb. nov.** (Lienping, China)**

*Culcula panterinaria lienpingensis* Wehrli, 1939, in Seitz, *Gross-Schmett. Erde* **4** (Suppl.): 266, pl. 20, row b.

***Biston panterinaria sychnospilas* (Prout), **comb. nov.** (Sado, Japan)**

*Culcula panterinaria sychnospilas* Prout, 1930, *Novit. zool.* **35**: 313.

Japanese population, *sychnospilas*, can be easily separable from *exanthemata* by “the general copiousness and heaviness of the markings, especially by the complete or almost complete postmedian of both wings” (Prout, 1930). Male genitalia are as shown in Fig. 15. The four subspecies from China show intermediate condition in colour and markings on wings between *exanthemata* and *sychnospilas*. Further examination will be needed to confirm the precise treatment of the Chinese populations.

***Ascotis selenaria imparata* (Walker)**

*Boarmia imparata* Walker, 1860, *List Specimens lepid. Insects Colln Br. Mus.* **21**: 372.

Chiang Mai, Doi Angkhang 1,450 m, 1 ♀, 16. v. 1983 (K.M.A.Y.); Doi Pui 1,300 m, 1 ♂, 30. v. 1983 (K.M.A.Y.). Chen Dao, 1 ♂, 29. iv. 1987 (S. & A. Saito).

***Cusiala boarmoides* Moore**

*Cusiala boarmoides* Moore, [1887], *Lepid. Ceylon* 3: 407.

Chiang Mai, 10 ♂, 1-2. iii. 1990 (native collector); Doi Suthep 600 m, 1 ♂, 20. v. 1983 (K. M.A.Y.); Doi Pui 1300 m, 1 ♂, 30. v. 1983 (K.M.A.Y.); Fang 450 m, 1 ♂, 14. v. 1983 (K. M.A.Y.). Chanthaburi, Khitchakut 500 m 4 ♂, 9. vi. 1983 (K.M.A.Y.); Khao Soi Dao 400 m, 17 ♂ 2 ♀, 6-7. vi. 1983 (K.M.A.Y.). Loei, Phu Rua 800 m, 1 ♂, 15-19. viii. 1987 (M.S.A.Y.). Nakhon Nayok, Khao Yai 800 m, 1 ♂, 25. viii. 1981 (K.M.A.Y.), 9 ♂ 1 ♀, 14. vi. 1983 (K.M.A.Y.). Chen Dao, 1 ♂, 29. iv. 1987 (S. & A. Saito). Wang Chin Pae, 1 ♂, 25. ii. 1990 (native collector).

***Xandrames albofasciata* Moore**

*Xandrames albofasciata* Moore, 1868, *Proc. zool. Soc. Lond.* 1867: 635.

Chiang Mai, Doi Inthanon 2,571 m, 5 ♂ 2 ♀, 9. ix. 1987, 1 ♂ 1 ♀, 11. ix. 1987 (A.Y.), Doi Inthanon 2,550 m, 1 ♀, 25. x. 1986 (M. G. Allen), Doi Inthanon Nat. Park 2,200-2,500 m, 1 ♂, 22-23. x. 1984 (Karsholt, Lomholdt, Nielsen), ZMC.

***Xandrames latiferaria* (Walker)**

*Pachyodes ? latiferaria* Walker, 1860, *List Specimens lepid. Insects Colln Br. Mus.* 21: 445.

*Xandrames latiferaria*: Hampson, 1895, *Fauna Br. India* (Moths) 3: 250.

Nakhon Nayok, Khao Yai, 1 ♂ 1 ♀, 25-26. viii. 1981 (K.M.A.Y.), Khao Yai 800 m, 5 ♂ 1 ♀, 11-19. xi. 1985 (M.S.A.), 2 ♂, 7-8. viii. 1987 (M.S.A.Y.), 3 ♂, 21-22. ix. 1987 (M.S.A.Y.). Chaiyaphum, Chulabhorn Dam 700 m, 2 ♂, 14. viii. 1987 (M.S.A.Y.).

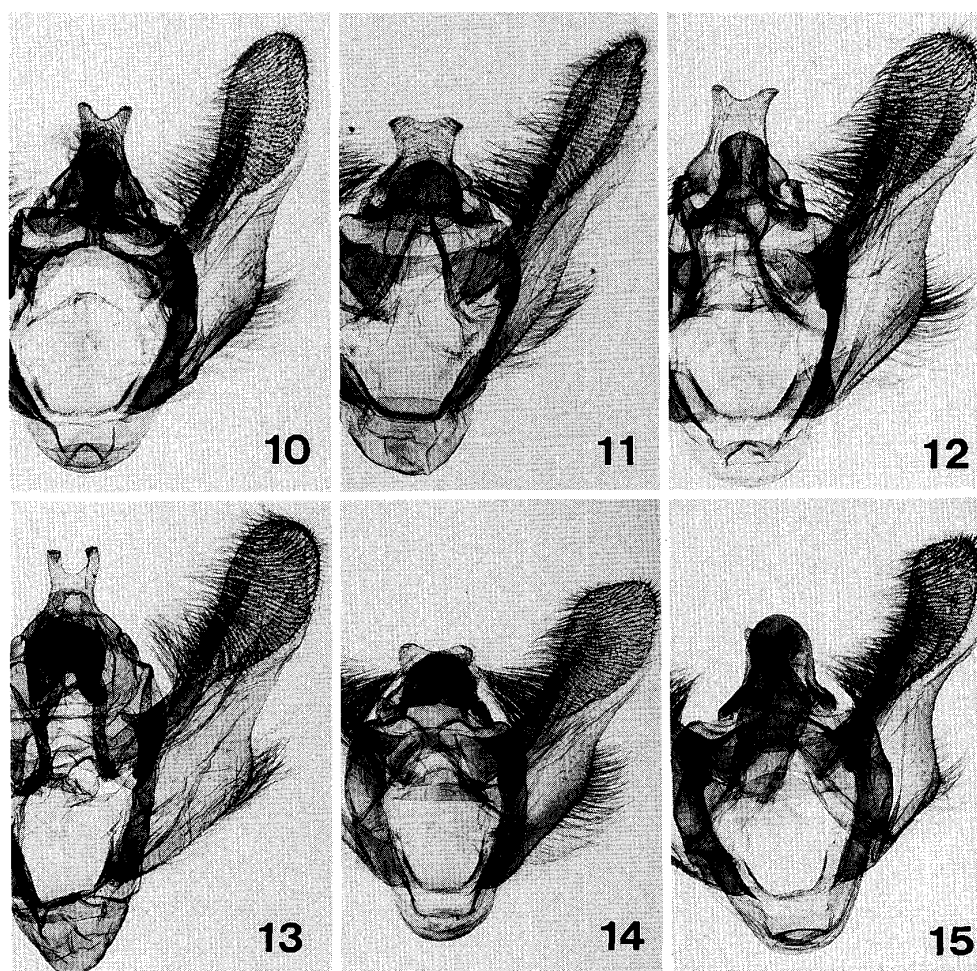
***Xandrames xanthos* sp. nov. (Figs 3-4)**

Length of forewing 47-48 mm. Tegula, patagium, abdomen and thoracic vestiture brown; labial palpus dark brown. Male antenna bipectinate, pecten brown and very long. Female antenna shortly pectinate. Legs greyish brown. Forewing: ochreous brown, irregularly striated and clouded with black; antemedial and postmedial lines ill-defined. Hindwing: uniformly brown with distinct dark brown postmedial line and obscure dark submarginal band; small discocellular spot weakly represented. Under-side: blackish brown; forewing with postdiscal white band; hindwing with distinct small discocellular black spot. Somewhat similar to *X. opisthochroma* Prout, 1928, *Bull. Hill Mus. Witley* 2: 148, from Sumatra in appearance, but can be distinguished from it in the following characters. Male antennal pecten much longer; forewing less thickly covered with black scales; hindwing with postmedial line; underside of forewing having broader postmedial white band.

Male genitalia (Fig. 16). Similar to those of *opisthochroma* (Fig. 17). Valva broader, ventral margin slightly out-curved; harpe with broader base; a single rod-like cornutus not round but truncate at apex.

Female genitalia (Fig. 19). Colliculum shorter than broad; posterior half of bursa copulatrix cylindrical and sclerotized, anterior half pyriform and membranous with a single, dentate, discoid signum.

Holotype. ♂, Chiang Mai, Doi Inthanon Nat. Park 1,600 m, 22-24. x. 1984 (Karsholt, Lomholdt, Nielsen), ZMC. Paratypes. 1 ♂, same data as holotype, ZMC. 5 ♂, "N. Vietnam, vic. Cha-pa (=Sapa), Mt. Fan-si-pan, n. slopes 1,600 m, 22°17'N 103°44'E,



Figs 10-14. Male genitalia of *Biston panterinaria exanthemata* (Moore). 10. Darjeeling. RS-4605. 11. Nepal. RS-4606. 12. Sikkim. RS-4604. 13. Vietnam. RS-4608. 14. Thailand. RS-4535.

Fig. 15. Male genitalia of *Biston panterinaria sychnospilas* (Prout). Is. Sado, Japan. RS-4537.

primary forest, 28. x.-3. xi. 1994, leg. Sinjaev & local collectors", *ex coll.* A. Schintlmeister, in coll. M. Schaarschmidt, Phyllodrom, Leipzig (4 ♂) and ZFMK (1 ♂). 7 ♂ 1 ♀, "N. Vietnam, vic. Cha-pa (=Sapa), Mt Fan-si-pan, n. slopes 1,600 m, 22°17'N 103°44' E, primary forest, 20-30. x. 1995, leg. Sinjaev & local collectors", *ex coll.* A. Schintlmeister, ZFMK & NSMT.

Distribution. Thailand, Vietnam.

### ***Blepharoctenucha virescens* (Butler)**

*Hemerophila virescens* Butler, 1880, *Ann. Mag. nat. Hist.* (5) **6**: 126.

*Blepharoctenucha virescens*: Warren, 1895, *Novit. zool.* **2**: 126.

Chiang Mai, Doi Inthanon 2,571 m, 1 ♂, 9. ix. 1987 (A.Y.).

### ***Erebomorpha fulgurita* Walker**

*Erebomorpha fulgurita* Walker, 1860, *List Specimens lepid. Insects Colln Br. Mus.* **21**: 495.

Chiang Mai, Doi Inthanon 2,550 m, 1 ♂ 1 ♀, 25. x. 1986 (M. G. Allen).

***Ophthalmitis clararia* Walker**

*Ophthalmodon clararia* Walker, 1866, *List Specimens lepid. Insects Colln Br. Mus.* **25**: 1594.

*Ophthalmodon fasciata* Warren, 1900, *Novit. zool.* **7**: 114.

Nakhon Si Thammarat, Tha Sala Nop Pitam, Khao Luang Natn. Park H.Q. 120 m, 1 ♂, 6, 9. viii. 1987 (M. Owada).

***Ophthalmitis herbidaria* (Guenée)**

*Ophthalmodon herbidaria* Guenée, 1857, in Boisduval & Guenée, *Hist. nat. Insectes* (Lépid.) **9**: 283.

*Ophthalmitis herbidaria*: Fletcher, 1979, in Nye, *The generic Names of Moths of the World* **3**: 146.

Chiang Mai, 1 ♂, 26. ii. 1990 (native collector).

***Amblychia angeronaria* Guenée**

*Amblychia angeronaria* Guenée, 1857, in Boisduval & Guenée, *Hist. nat. Insectes* (Lépid.) **9**: 215.

Nakhon Nayok, Khao Yai 800 m, 1 ♂, 18. vi. 1983 (K.M.A.Y.). Chanthaburi, Khao Soi Dao 400 m, 1 ♂, 6. vi. 1983 (K.M.A.Y.).

***Amblychia hymenaria* (Guenée)**

*Elphos hymenaria* Guenée, 1857, in Boisduval & Guenée, *Hist. nat. Insectes* (Lépid.) **9**: 285.

*Amblychia hymenaria*: Holloway, 1993: 206.

Nakhon Nayok, Khao Yai 800 m, 1 ♂, 19. vi. 1983 (K.M.A.Y.), Khao Yai Nat. Park 700 m, 1 ♀, 29. ix-6. x. 1984 (Karsholt, Lomholdt, Nielsen). Loei, Phu Rua 800 m, 1 ♂ 1 ♀, 15-19. viii. 1987 (M.S.A.Y.).

***Amblychia praeumbrata* (Warren) (Fig. 2)**

*Elphos praeumbrata* Warren, 1893, *Proc. zool. Soc. Lond.* **1893**: 433.

*Amblychia praeumbrata*: Holloway, 1993: 206.

*Elphos moesta* Warren, 1894, *Novit. zool.* **1**: 430.

S. Thailand, Ranong Kapur, Khlong Nakha 50 m, 1 ♂, 12-13. viii. 1987 (M. Owada), NSMT.

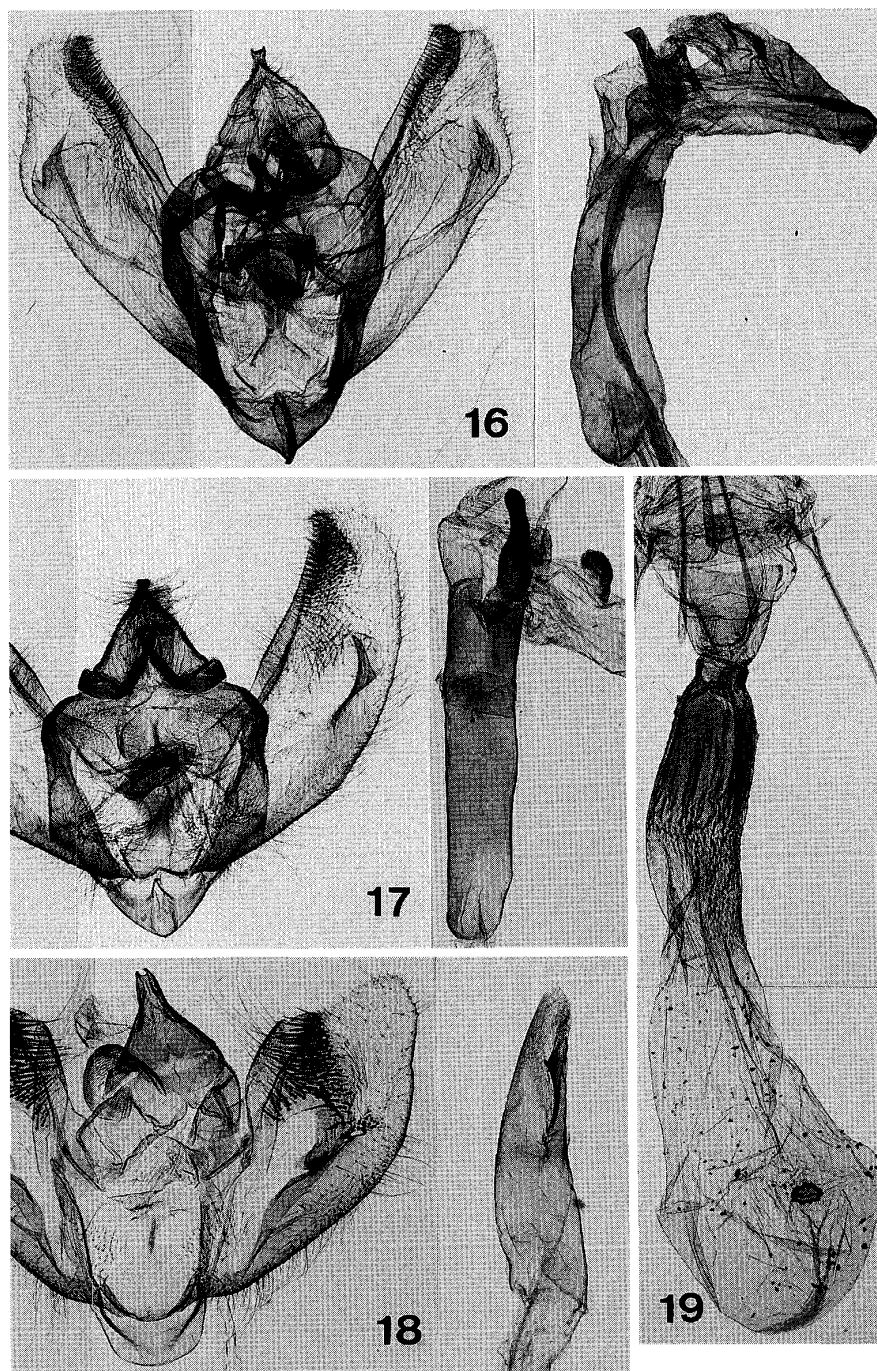
The male recorded above is different from the Sundaland population in appearance: smaller (length of forewing 31 mm), more uniformly grey, without fulvous markings. No clear differences can be found in the male genitalia (Fig. 18). I examined another similar male taken at Taiping, Perak in Malaysia in July, 1987. The Thailand-Malaysia population will require a racial separation in the future. More material must be examined for confirmation.

***Xerodes ypsaria* Guenée**

*Xerodes ypsaria* Guenée, 1857, in Boisduval & Guenée, *Hist. nat. Insectes* (Lépid.) **9**: 291.

Chiang Mai, 2 ♂, 25-26. ii. 1990, 2 ♂, 1. iii. 1990, 1 ♂, 5. iii. 1990, 1 ♂, 22. iii. 1990 (native collector). Wang Chin, Pae, 1 ♂, 16. ii. 1990 (native collector.).





Figs 16-18. Male genitalia. 16. *Xandrames xanthos* sp. nov. RS-4568. 17. *Xandrames opisthochroma* Prout. Sumatra. RS-4664. 18. *Amblychia praeumbrata* (Warren). RS-2988.

Fig. 19. Female genitalia of *Xandrames xanthos* sp. nov. RS-4678.

***Abaciscus karsholti* sp. nov.** (Fig. 6)

Male. Length of forewing 18 mm. Tegula, patagium, abdomen and thoracic vestitue dark brown. Labial palpus and legs grey. Forewing: blackish brown with black markings; inner marginal area paler than the rest; antemedial line out-curved anteriorly, then waved to inner margin; postmedial line zigzag, strongly angled beyond cell; medial line faintly represented, paralleling with postmedial line; discocellular elliptical



spot well defined; submarginal line ill-defined, indicated by a small white dot at the middle. Hindwing: paler than forewing except distal area; postmedial line more zigzag; medial line well-defined, almost straight; discocellular spot appearing on medial line. Underside: both wings almost uniformly pale brown; on forewing antemedial line lacking, postmedial line not angled beyond cell; the other maculation as on upperside. Female unknown.

Male genitalia (Fig. 22). Similar to those of *A. stellifera* (Warren) in lacking of setose furca. A short weak process arising from uncus dorsally. Medial part of gnathos very small. Aedeagus with two heavily sclerotized parts, an elongate band and a roundish lump. Male genitalia (holotype) of *stellifera* were illustrated by me (Sato, 1980: 43).

Holotype. ♂, Chiang Mai, Doi Inthanon Nat. Park 1,600 m, 22-24. ix. 1984 (Karsholt, Lomholdt, Nielsen), ZMC. Paratypes. Type locality, 1 ♂, same data as holotype, ZMC. 1 ♂, N. Vietnam, Cai Prov., Sa Pa, Deo Tram Ton 1,950 m, 13. v. 1995 (M. Owada), NSMT. 7 ♂, "N. Vietnam, vic. Cha-pa (=Sapa), Mt. Fan-si-pan, n. slopes 1,600 m, 22°17'N 103°44'E, primary forest, 20-30. 4. 1995, leg. Sinjaev & local collectors", ex coll. A. Schintlmeister, ZFMK.

Distribution. Thailand, Vietnam.

### *Jankowskia fuscaria fuscaria* (Leech)

*Boarmia fuscaria* Leech, 1891, *Entomologist* 24 (Suppl.): 45.

*Jankowskia fuscaria*: Leech, 1897, *Ann. Mag. nat. Hist.* (6) 19: 429.

Chiang Mai, Doi Pui 1,300 m, 1 ♂, 1-4. ix. 1987 (M.S.A.Y.).

### *Parectropis siamensis* sp. nov. (Fig. 9)

Male. Length of forewing 14 mm. Closely related to *P. euthystrophion* (Wehrli), **comb. nov.** (Fig. 7), but different from it in the following characters. Both wings paler in colour. Forewing: medial black band more clearly defined, with straight proximal margin; postmedial line less developed. Hindwing: medial line more defined. Underside: paler with more defined maculation. Female unknown.

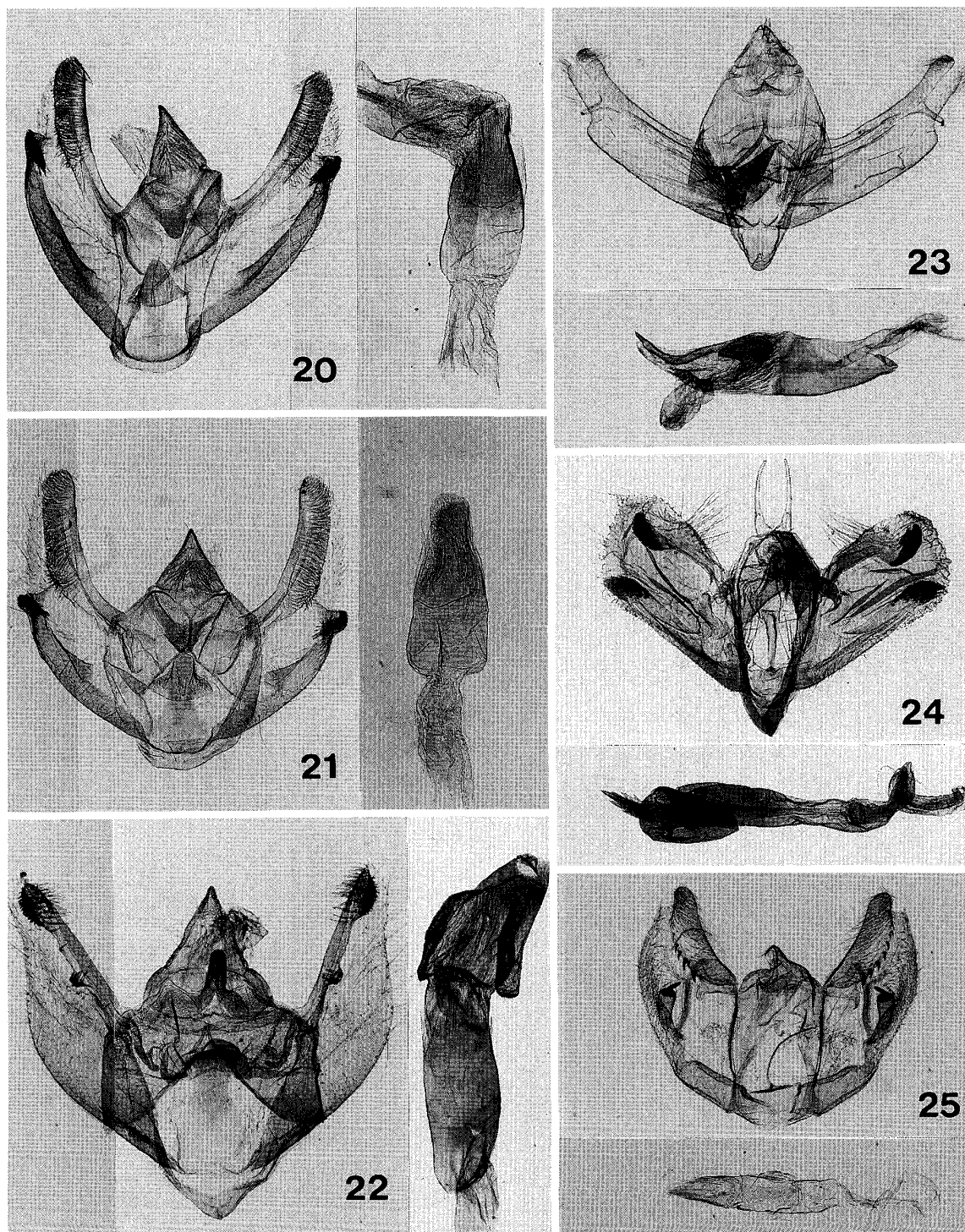
Male genitalia (Fig. 20). Similar to those of *euthystrophion* (Fig. 19), but easily distinguished by much shorter harpe. Uncus a little shorter, cucullus longer, apical part of juxta abruptly narrowed.

Holotype. ♂, Chiang Mai, Doi Pakia 1,500 m, 5-7. ix. 1987 (M.S.A.Y.), OPU.

The generic placement of *euthystrophion* and this new species is still uncertain for me. I have placed them provisionally in the genus *Parectropis* Sato, 1980, because of a certain similarity of the male genitalia. The exact systematic position will be left unclarified until discovery of the female.

*Euthystrophion* was described from China under *Boarmia* by Wehrli (1943: 538). He placed it next to *Parectropis extersaria* (Hübner). I examined two syntypes housed in ZFMK.

Type material examined. Lectotype (Figs 7-8), here designated, ♂, "Tsékou, 1900, R. P. J. Dubernard", ZFMK. Paralectotype, here designated, ♂, "China mer occ, Prov. Yünnan occ., Weihsi, Mekong Fluss, 2,500 m, Juli", ZFMK.



Figs 20-25. Male genitalia. 20. *Parectropis euthystrophion* (Wehrli). ZFMK. 21. *Par-  
ectropis siamensis* sp. nov. RS-3068. 22. *Telletrurona amnicosta* sp. nov. RS-4572.  
23. *Abaciscus karsholti* sp. nov. RS-4410. 24. *Chrysoblephara chrysoteucta* (Prout). RS-  
4585. 25. *Myrioblephara embolochroma* (Prout). RS-3630.

### ***Myrioblephara irrorata* (Moore)**

*Cleora irrorata* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr  
Atkinson*: 240.

*Myrioblephara irrorata* : Sato, 1993, *Tinea* **13** (Suppl. 3) : 17.

Chiang Mai, Doi Inthanon 2,571 m, 3 ♂ 2 ♀, 22. v. 1983 (K.M.A.Y.), 1 ♀, 8. ix. 1987 (M.Y.) ; South Ridge 1,650 m, 1 ♀, 18-21. x. 1983 (M. Owada).

***Myrioblephara embolochroma* (Prout), comb. nov. (Fig. 24)**

*Ectropis embolochroma* Prout, 1927, *J. Bombay nat. Hist. Soc.* **31** : 935.

Chiang Mai, Doi Inthanon Nat. Park 2,200-2,500 m, 1 ♂, 22-23. x. 1984 (Karsholt, Lomholdt, Nielsen), ZMC.

This species was described based on one male from Burma (= Myanmar) by Prout (1927). Male genitalia (Fig. 24) show this species to belong to the genus *Myrioblephara*.

***Myrioblephara conifera* (Moore)**

*Cleora conifera* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr Atkinson* : 239.

*Myrioblephara conifera* : Sato, 1993, *Tinea* **13** (Suppl. 3) : 17.

Chiang Mai, Doi Inthanon 2,571 m, 2 ♂ 10 ♀, 22. v. 1983 (K.M.A.Y.), 4 ♀, 8-10. ix. 1987 (M.S.A.Y.), *ditto* 2,500 m, 2 ♀, 3-5. ix. 1987 (M. Owada) ; Doi Inthanon Nat. Park 2,200-2,500 m, 7 ♂, 22-23. x. 1984 (Karsholt, Lomholdt & Nielsen), ZMC.

***Myrioblephara simplaria* (Swinhoe)**

*Ectropis simplaria* Swinhoe, 1894, *Trans. ent. Soc. Lond.* **1894** : 221.

*Myrioblephara simplaria* : Holloway, 1993 : 252.

Loei, Phu Rua 800 m, 1 ♂, 15-19. viii. 1987 (M.S.A.Y.) ; Doi Chang Khian 1,250 m, 1 ♂, 25. x. 1985 (M.S.A.).

***Myrioblephara idaeoides* (Moore)**

*Cleora idaeoides* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr Atkinson* : 239.

*Myrioblephara idaeoides* : Sato, 1993, *Tinea* **13** (Suppl. 3) : 17.

Chiang Mai, Doi Pui 1,300 m, 1 ♂, 26-27. x. 1985 (M.S.A.).

***Calichodes ochrifasciatus* (Moore)**

*Cleora ochrifasciata* Moore, 1888, in Hewitson & Moore, *Descr. new Indian lepid. Insects Colln late Mr Atkinson* : 240.

*Calichodes ochrifasciatus* : Sato, 1993, *Tinea* **13** (Suppl. 3) : 18.

Chiang Mai, Doi Inthanon south Ridge 1,650 m, 3 ♀, 18-21. x. 1983 (M. Owada), Doi Inthanon 2,500 m, 1 ♂ 4 ♀, 3-5. ix. 1987 (M. Owada), *ditto* 2,571 m, 2 ♀, 22. v. 1983 (K.M.A.Y.), 2 ♂ 1 ♀, 8-9. ix. 1987 (A.M.), 2 ♀, 11. ix. 1987 (M.S.A.), Doi Inthanon Nat. Park 2,200-2,500 m, 3 ♂, 22-23. x. 1984 (Karsholt, Lomholdt, Nielsen), ZMC ; Chiang Mai 325 m, 1 ♂, 15-30. x. 1984 (Karsholt, Lomholdt, Nielsen), ZMC.

***Chrysoblephara chrysoteucta* (Prout)**

*Ectropis chrysoteucta* Prout, 1926, *J. Bombay nat. Hist. Soc.* **31** : 799.

*Chrysoblephara chrysoteucta* : Holloway, 1993 : 255.

Doi Pui 1,300 m, 1 ♂, 1-4. ix. 1987 (M.S.A.Y.).

This species was described on one female from Burma (= Myanmar) by Prout (1926), and was recently recorded from Borneo by Holloway (1993). The male recorded above from Thailand is different from Bornean material in the genitalia (Fig. 23) as follows. Costal band on valva more strongly curved, with shorter spines apically; ventral band less curved, with a row of spine-like setae apically. I have not examined any material from Myanmar. More detail comparison based on rich material including females will be needed to confirm the identification of this species. The genus *Chrysoblephara* was established to receive this species by Holloway (1993: 254), and is monobasic for the time being.

### ***Necyopa flatipennata* Walker**

*Necyopa flatipennata* Walker, 1862, *List Specimens lepid. Insects Colln Br. Mus.* **34**: 1079.

Nakhon Nayok, Khao Yai 800 m, 4 ♂, 7-8. viii. 1987 (M.S.A.Y.), 1 ♂, 24. ix. 1987 (M.S.A.Y.). Nakhon Si Thammarat, Tha Sala Kra Raw, Kan Leong 650 m, Khao Luang Natn. Park, 2 ♂, 7-8. viii. 1987 (M. Owada).

### ***Necyopa ioge* Prout**

*Necyopa ioge* Prout, 1932, *J. fed. Malay St. Mus.* **17**: 102.

Chiang Mai, Doi Inthanon, South Ridge 1,650 m, 1 ♂ 1 ♀, 18-21. x. 1983 (M. Owada).

### ***Prochasma dentilinea* (Warren)**

*Psilalcis dentilinea* Warren, 1893, *Proc. zool. Soc. Lond.* **1893**: 431.

*Prochasma dentilinea*: Holloway, 1976: 84.

Chiang Mai, Doi Pakia 1,500 m, 1 ♂, 5-7. ix. 1987 (M.S.A.Y.).

### ***Prochasma albimonilis* Prout**

*Prochasma albimonilis* Prout, 1927, *J. Bombay nat. Hist. Soc.* **31**: 943.

Chiang Mai, Pakia, 5 ♂, 23. vii. 1981 (K.M.A.Y.).

### ***Ruttellerona pallicostaria* (Moore)**

*Angerona pallicostaria* Moore, 1868, *Proc. zool. Soc. Lond.* **1867**: 620.

*Ruttellerona pallicostaria*: Holloway, 1993: 224.

Nakhon Nayok, Khao Yai 800 m, 3 ♂ 1 ♀, 14-18. vi. 1983 (K.M.A.Y.), 1 ♂ 1 ♀, 8-9. viii. 1987 (M.S.A.Y.). Chanthaburi, Phliu, 2 ♂, 4-8. vi. 1983 (K.M.A.Y.), Khao Soi Dao 400 m, 1 ♂, 6. vi. 1983 (K.M.A.Y.), 1 ♂, 7-8. x. 1985 (K.M.S.A.). Kanchanaburi, Tham Than Lot 800 m, 1 ♂, 22-24. xi. 1985 (M.S.A.), Tam Tarn Lod, 1 ♂, 21. viii. 1981 (K.M.A.Y.). Chiang Mai, Fang, 1 ♂, 15. vii. 1981 (K.M.A.Y.). Nakhon Si Thammarat, Tha Sala, Nop Pitam, Khao Luang Natn. Park H.Q. 120 m, 1 ♂ 1 ♀, 6, 9. viii. 1987 (M. Owada).

### ***Telletrurona* gen. nov.**

Type species: *Telletrurona amnicosta* sp. nov.

Somewhat similar to the genus *Ruttellerona* Swinhoe, 1894 (type species: *Boarmia*

*cessaria* Walker, 1860) in appearance, but clearly different from it in lacking black discocellular spot on underside, and pale marginal zone on hindwing. Male. Antenna similar to that of *Ruttellerona*, but ciliation less developed. Fovea present, setal comb on third abdominal sternite and hind-tibial hair pencil absent as in *Ruttellerona*. Veins  $R_1$  and  $R_2$  on forewing shortly stalked, arising from cell, not anastomosing with Sc, while in *Ruttellerona*  $R_1$  is almost coincident with  $R_2$  except near termen.

Male genitalia (Fig. 21). Uncus triangular, not so complicated as in *Ruttellerona*. Gnathos developed, while in *Ruttellerona* it is vestigial. Valva without setose or spined ornamentation except weak cucullus and small ampulla.

In general pattern of the male genitalia, *Telletrurona* is rather similar to *Krananda* Moore, 1868 (type species: *K. semihyalina* Moore, 1868) than to *Ruttellerona*, but the specialized shape of both wings of *Krananda* indicates the both genera are not closely related. The precise systematic position of *Telletrurona* has not been decided yet. The name of this new genus is an anagram of *Ruttellerona*.

### ***Telletrurona amnicosta* sp. nov.** (Fig. 5)

Male. Length of forewing 22–25 mm. Tegula, patagium and thoracic vestiture pale yellow; labial palpus grey. Legs black mixed with grey. Costal area of forewing broadly suffused with yellowish brown, forming costal band; the rest of wings variegated with brown and white; postmedial black line irregularly lunulate, not continuous, but marked on veins. Underside of wings similar to upperside, but paler with less defined markings. Female unknown.

Male genitalia (Fig. 21). Uncus triangular, not setose. Gnathos well developed, medial part elongate, rectangular. Valva narrow, tapering distally to weak cucullus, with a small setose ampulla. Aedeagus with a rectangular scobinate cortus.

Holotype. ♂, "Irang R., Manipur, India. iv. 1913, Col. H.C. Tytler, 1918–61/*Paradromilia amnicosta* Prout (MS)", BMNH. Paratypes. 1 ♂, Thailand, Chiang Mai, Doi Chang Khian 1,250 m, 29. v. 1983 (K.M.A.Y.), OPU. 1 ♂, "N. Vietnam, Cuc Phuong, 120 km SW Hanoi, 20°15'N 105°20'E, 1/2. 4. 1995, 400 m, leg. Sinjaev & Schintlmeister", ZFMK.

Distribution. India, Thailand, Vietnam.

The male designated as the holotype is preserved in BMNH under the name of "*Ectropis amnicosta* Prout", but this taxon was not described by Prout. Therefore I named this species after his manuscript name.

### **Acknowledgements**

I wish to express my cordial thanks to Dr S. Moriuti, OPU, Dr M. Owada, NSMT, Dr O. Karsholt, ZMC, and Dr D. Stüning, ZFMK, for their permission to study many specimens under their curation. Additionally Dr Stüning kindly gave me useful information on Thai Boarmiini. I am also much indebted to Dr M.J. Scoble and Miss K. Buckmaster, BMNH, for their kind help in examining the type material. My special thanks are due to Dr H. Inoue, Prof. Emeritus of Otsuma Women's University, Iruma, for his critical reading of the manuscript and to Dr A. Schintlmeister, Dresden, for his offering valuable material.

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## 摘 要

タイ国産 Boarmiini (シャクガ科エダシャク亜科) の記録 (第 3 報) (佐藤力夫)

本報では、大阪府立大学 (1981, 1983, 1985, 1987) と国立科学博物館 (1987) が実施したタイ国鱗翅類調査によって得られた資料に基づいて、シャクガ科エダシャク亜科 Boarmiini 族に属する種を記録した。筆者は、既に第 1 報で *Hypomecis*, *Cleora*, *Alcis* の 3 属を、第 2 報では従来 *Medasina* 属として扱われていた種を中心に 12 属を取り上げた。今回は新たに 19 属を対象とするとともに、*Alcis* の追加種 1 種を加え計 35 種の全データを記録した。新タクサは、次の通りである。

新属. *Telletrurona* Sato (Type species: *Telletrurona amnicosta* Sato).

新種. *Xandrames xanthos* Sato (Thailand, Vietnam), *Abaciscus karsholti* Sato (Thailand, Vietnam), *Parectropis siamensis* Sato (Thailand), *Telletrurona amnicosta* Sato (Thailand, Vietnam).

なお、*Culcula* を *Biston* のシノニムとしたので、日本のキオビゴマダラエダシャクの学名は *Biston panterinaria sychnospilas* (Prout) となる。

(Accepted July 18, 1996)